

Guidance Incentives

Implementation Meeting

April 14, 2004

New York, NY

Guidance Goals

- Provide States with an incentive (SIPs, transportation conformity) to implement idle reduction projects
- Provide emission reduction credit guidance for projects that reduce diesel idling emission to achieve air quality goals.

Step 1:

Preliminary Assessment

- Determine if you have a long duration idling problem in your area
 - Conduct on-site observations and surveys of idling trucks and locomotives
 - Truck Stop: average nightly truck occupancy, average number of idling trucks, and average number of idling hours per truck
 - Switch Yard: number of committed engines, average daily idling hours per engine
 - Account for increases/decreases due to weather

Step 2:

Decide on State Action



- Implement Voluntary Idle Reduction Measures
 - Build an Investment Team: EPA/DOT/DOE, state/local counterparts, idle reduction technology (IRT) manufacturer, energy provider, truck/rail companies, truck stops, community groups.
 - Evaluate locations or fleets
 - Leverage financial resources (Supplemental Environmental Projects, Federal grants, program funds, private investments, pay-back loans) to implement projects

Step 2 (cont.)



- Requiring Idling Reduction Measures
 - Issue rule or regulation
 - Site specific rule at locations (truck stops) or on vehicles; or
 - State-wide rule (applies to all locations or vehicles)
 - Doing both would raise issues of double-counting
 - Require no idling (anti-idling law)
 - See California's Proposed Airborne Toxic Control Measure to Limit Commercial HDDV idling or
 - Require trucks be sold with IRTs
 - See California's Proposed Adoption of HDDV Idling Emission Reduction Requirement

Step 3:

Historic Idling Activity



- Truck Stop Electrification Projects
 - Conduct independent on-site survey to determine annual occupancy rate and average daily idling hours per truck
- Rail Yard Projects
 - Use event recorder data or conduct independent on-site survey to determine the average daily idling hours per locomotive engine
- Fleet Projects
 - Use engine control module data per truck to determine average daily idling hours coupled with GPS data to determine where this idling occurred

Step 4:

Idle Reduction Technology

- Select a commercially available technology
 - Avoid R&D technologies
- Select an IRT that has the capability of tracking its performance in terms of number of hours it operated
 - See Locomotive Case example where ZTR's SmartStart has the ability to measure the main engine's performance
 - The greater the data acquisition the greater the confidence in actual emission reductions

Step 5:



Calculate Idling Emission Reductions

- One Truck Parking Space
 - Baseline: 0.43 NO_x tpy per space
 - (EPA Idling EF) (Estimated Idling Hrs/Yr)
 - (135 g/hr) (2,920 hrs/yr) / conversion factor = .43 tpy NO_x
 - Determining TSE emission is not necessary for SIP/conformity calculations
 - Assumed as part of utility growth within cap
 - Rough calculation of TSE technology shows over 90% reduction of NO_x.

Step 5 (cont)



- One Locomotive Switcher
 - Baseline: 2.6 tpy per switcher
 - (EPA Idling EF) (Estimated Idling Hrs/Yr)
 - (800 g/hr) (3,000 hrs/yr) / conversion factor = 2.6 tpy NO_x
 - Determine APU emission
 - Typical locomotive APU certified under 40 CFR Part 89, and found to emit about 71 g/hr
 - (71 g/hr) (3000 hr/yr) / conversion factor = .23 tpy (assumes 100% idle reduction)
 - APU can result in a 92% NO_x decrease over baseline emission

Step 6: Reporting



- Voluntary Projects
 - State validates and reconciles emission reduction shortfalls per 1997 Voluntary Measures Policy
 - For TSE, determine # hours technology operated to reduce main engine idling
 - For truck APU project, determine ECM and GPS data to determine # hours technology operated and where it operated
- Involuntary Projects
 - “Responsible Party” records data and maintains it for 5 years: includes truck fleet or location owner (or third party lessee of property with TSE technology)

Other Considerations

- Combining rules (anti-idling laws) and voluntary projects
 - Avoid double-counting of emission reductions
- When determining historic idling activity, account for seasonal changes in weather and idling pattern
- For truck projects, EPA's modeling for long duration idling will be updated in the next model

Projections

- Truck Stop Electrification Spaces
 - 50 TSE Spaces = 21 tpy NO_x
 - 100 TSE Spaces = 42 tpy NO_x
 - 150 TSE Spaces = 64 tpy NO_x
- Switch Yard Engines
 - 10 switchers w/ APUs = 24 tpy

EPA-DOT Assistance



- EPA & DOT will assist each state interested in implementing a voluntary idle reduction project in SIPs/conformity
 - Contacts:
 - Project Development: Paul Bubbosh (202-343-9322)
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